Preface(International Symposium on NONLINEAR TRANSPORT AND RELATED PHENOMENA IN INORGANIC QUASI ONE DIMENSIONAL CONDUCTORS)

AUTHOR(S):

Abe, Y.; Ido, M.; Imai, K.; Haga, T.; Nakahara, J.; Sambongi, T.; Takayama, H.; Tanaka, S.; Yamaya, K.

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Preface

The International Symposium on "Nonlinear Transport and Related Phenomena in Inorganic Quasi One Dimensional Conductors" was held on 20-22 October 1983 at Hokkaido University under the sponsorship of the Ministry of Education, Science and Culture. The number of participants was 59, of which 8 were from abroad; United Kingdom, France and USA. The program of the symposium consisted of 11 invited papers, and 16 contributing papers including 2 post deadline papers.

A remarkable progress has made in physics and chemistry of both inorganic and organic low dimensional conductors, and growing populations are now devoted to the research on metallic organic compouds. Nevertheless, charge density wave (CDW) sliding, one of the novel aspects of solid state physics, has been stemmed from transition metal trichalcogenides (MX_3) and many other inorganic materials are being found to exhibit the peculiar transport properties such as the nonlinear conductivity associated with periodic current oscillations, which are attributed to the sliding of CDW as in MX_3. It was one of the motivations to have this symposium, to deepen the understanding of these novel, but still controversial phenomena. Particular emphasis was paid to the following subjects:

(1) Theories on CDW nonlinear dynamics in quasi one-dimensional (1D) conductor

(2) Experiments on nonlinear transport and related properties in MX_3, MX_5, $(MX_4)_nI$, and blue bronzes

(3) Localization and superconductivity in 1D conductors.

This proceedings contain all the papers presented in the symposium. (The paper by Grüner, prepared for the symposium but not presented, is also included.) Our policy is not to limit the length of an individual paper. We believe that these papers are of help to understand the present status of this field.

The Organizing Committee would like to acknowledge Professor John Bardeen who, as the honorary committee chairman, had sent most valuable advices and gave a comprehensive paper. Throughout the symposium he was quite eager to listen every paper and made efforts to encourage young scientists.

Finally we would like to emphasize the smooth steering of the symposium by Mrs. R. Shimizu.

Organizing Committee

Y. Abe, M. Ido, K. Imai, T. Haga,
J. Nakahara, T. Sambongi, H. Takayama,
S. Tanaka, and K. Yamaya

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